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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,727	02/17/2006	David J. Schroeder	100191CIP	6455

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EXAMINER	
VINH, LAN	
ART UNIT	PAPER NUMBER
1792	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,727	SCHROEDER ET AL.	
	Examiner	Art Unit	
	LAN VINH	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21,24,30,31,39,42,64,65,74,75,81,83 and 86* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21,24,30,31,39,42,64,65,74,75,81,83 and 86* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *101206,041509*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 21, 24, 30, 31, 39, 42 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 8-10 of U.S. Patent No. 7,485,241. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of invention of broader claims 21, 24, 30-31, 39, 42 of the instant application is encompassed by the scope of invention of narrower claims 1-4, 8-10 of U.S. Patent No. 7,485,241

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 21, 24, 30, 31, 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishida et al (US 6,669,748)

Nishida discloses a dispersion liquid for polishing. The liquid comprising:

silica particles (col 6, lines 45-46)

300 ppm of Ca ions (col 2, lines 55-60) which reads on about $5x10^{-3}$/0.2 ppm to about 10 mmoles/kg/400 ppm of calcium based on the total weight of the polishing composition

water (col 6, lines 40-41) wherein the polishing composition has a pH of about 8 to about 12 (col 4, lines 25-30), the polishing liquid further comprises hydrogen peroxide/an oxidizing agent, BTA, complexing agent and organic acid, citric acid (col 6, lines 58-67; col 7, lines 1-3)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishida et al (US 6,669,748) in view of Tsuchiya et al (US 2001/0006224)

Nishida polishing liquid has been described above. Unlike the instant claimed invention as per claim 39, Nishida fails to disclose the limitation that wherein the oxidizing agent is present in the polishing composition in an amount of about 0.5 to about 8 wt.% based on the total weight of the polishing composition

Tsuchiya discloses a slurry for CMP comprises 2.5 wt % of hydrogen peroxide/oxidizing agent (page 5, paragraph 0069)

One skilled in the art at the time the invention was made would have found it obvious to modify Nishida polishing liquid to include 2.5 wt % of the oxidizing agent in view of Tsuchiya since Tsuchiya discloses that the content of the oxidizing agent in the polishing slurry is preferably at 10 wt% or less for preventing dishing and adjusting a polishing rate to a proper value (page 3, paragraph 0045)

4. Claims 64, 65, 74, 75, 81, 83, 86 rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchiya et al (US 2001/0006224) in view of Nishida et al (US 6,669,748)

Tsuchiya discloses a method of polishing a substrate comprising the steps of:

providing a substrate, the substrate comprises tantalum (page 2, paragraph 0023)

providing a chemical-mechanical polishing composition comprising: silica particles, calcium, strontium, water, wherein the polishing composition has a pH of about 9 , the polishing composition also includes oxidizing agent (2.5 wt %), BTA, citric acid , organic

acids/ complexing agent (page 2, paragraph 0027, page 3, paragraphs 0030, 0043, 0045 and 0047, page 4, paragraph 0053, page 5, paragraph 0069)

applying the chemical-mechanical polishing composition to a portion of the substrate and abrading a portion of the substrate with the polishing composition to polish the substrate (page 2, paragraph 0023; fig. 1c)

Unlike the instant claimed invention as per claim 64, Tsuchiya fails to disclose that the polishing composition comprises about $5x10^{-3}$/0.2 ppm to about 10 mmoles/kg/400 ppm of calcium based on the total weight of the polishing composition

Nishida discloses a dispersion liquid for polishing. The liquid comprising 300 ppm of Ca ions (col 2, lines 55-60) which reads on about $5x10^{-3}$/0.2 ppm to about 10 mmoles/kg/400 ppm of calcium based on the total weight of the polishing composition

One skilled in the art at the time the invention was made would have found it obvious to modify Tsuchiya polishing composition to include 300 ppm of Ca ions as per Nishida since Nishida discloses in col 2, lines 60-67, col 3, lines 1-3 that

> When the content of ions other than Na ions is less than 300 ppm, a quantity of cations on a surface of the silica particle is too small and stability of the silica particle dispersion liquid is poor, which gives some negative effects for such use as the low workability with low cost performance, and even if it is used as a polishing agent or a polishing material, sometimes a sufficient polishing speed can not be obtained. When the content of ions other than Na

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAN VINH whose telephone number is (571)272-1471. The examiner can normally be reached on M-F 8:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571 272 1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lan Vinh/
Primary Examiner, Art Unit 1792